**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
WASHINGTON, D.C., 20460

# ACTION MEMORANDUM

SUBJECT: Consent Agreement and Proposed Final Order: *In the Matter Bloom Energy Corporation*, Docket No. RCRA-HQ-2020-501

FROM: Rosemarie A. Kelley, Director
Office of Civil Enforcement

ROSEMARIE KELLEY
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Date: 2020.05.05 15:18:43 -04'00'

TO: Environmental Appeals Board

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This action memorandum requests your approval of the attached Consent Agreement and proposed Final Order ("CAFO") to settle the above-referenced enforcement action regarding violations of Section 3008(a) of the Resource Conservation and Recovery Act ("RCRA" or the "Act"), as amended, 42 U.S.C. § 6928(a), and federally-authorized Pennsylvania and Maryland hazardous waste management regulations (PAHWR and MDHWMR). The CAFO is attached as Attachment A. EPA Complainant, Diana Saenz, Acting Director of the Waste and Chemical Enforcement Division of this office, signed this Consent Agreement on behalf of the United States Environmental Protection Agency ("EPA"), and Shawn Soderberg, Executive Vice President, General Counsel and Secretary of Bloom Energy Corporation ("Bloom" or "Respondent"), signed this Consent Agreement on behalf of the Respondent.

The parties have agreed to settle the causes of action described below before further court proceedings. Therefore, this proceeding will be simultaneously commenced and concluded upon ratification by the Environmental Appeals Board ("EAB") of the Consent Agreement and issuance of the Final Order. 40 C.F.R. §§ 22.13(b), 22.18(b)(2)–(3).

This Memorandum is submitted in accordance with the EAB's *Consent Agreement and Final Order Procedures* (July 2018), which provide that the Office of Civil Enforcement (OCE) Director may transmit Consent Agreements and proposed Final Orders directly to the EAB. As discussed in this Memorandum, I have determined that the Consent Agreement would serve the public interest and comports with RCRA, applicable regulations, and EPA policy. If ratified, the CAFO would assess a civil penalty of $210,000 against Respondent for the alleged violations described below. In addition, under the CAFO, Respondent agrees to conduct a nationwide Compliance Audit of hazardous waste shipments that occurred between September 8, 2015[1] and December 31, 2019, and Respondent will pay an agreed-upon penalty for the violations that will be identified during the Compliance Audit.

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[1] The Region and OCE held numerous discussions with Bloom regarding whether any regulatory exemptions or exclusions were applicable to Bloom's Desulf Canisters. The agency determined that there were no RCRA exemptions or exclusions applicable to the spent media in Bloom's Desulf Canisters generated in states within Region III. The Regional Administrator for Region III set forth EPA's position in a letter, dated September 8, 2015, which was addressed to the Delaware Department

## I. Background

### A. RCRA Requirements

This Consent Agreement addresses alleged violations by Respondent of Subtitle C of RCRA, 42 U.S.C. §§ 6921–6939g, and certain federally-authorized Pennsylvania and Maryland hazardous waste management regulations, in connection with Respondent's customer facilities.

RCRA provides a "cradle to grave" scheme for the management of hazardous waste. Section 3002(a) of RCRA, 42 U.S.C. § 6922(a), (relating to Standards Applicable to Generators of Hazardous Waste) provides EPA with the authority to promulgate regulations establishing waste handling and recordkeeping standards applicable to generators of hazardous waste.

Section 3006(b) of RCRA, 42 U.S.C. § 6926(b), (relating to the State Authorized Hazardous Waste Programs) allows states to become authorized to implement their own state hazardous waste management programs in lieu of the federal RCRA program. After federal authorization, the state program serves as the federal and state RCRA program for that state.

25 Pa. Code § 262a.10 (which incorporates by reference 40 C.F.R. § 262.20(a)(1)) and Code of Maryland Regulations ("COMAR") 26.13.03.04.A(1) both provide that a generator who transports, or offers for transport a hazardous waste for offsite treatment, storage, or disposal, or a treatment, storage, and disposal facility who offers for transport a rejected hazardous waste load, must first prepare a Manifest (OMB Control number 2050-0039) on EPA Form 8700-22, before the waste is transported offsite.

Section 3007(a) of RCRA, 42 U.S.C. § 6927(a), provides: "For purposes of developing or assisting in the development of any regulation or enforcing the provisions of this chapter, any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled hazardous wastes shall, upon request of any officer, employee or representative of the Environmental Protection Agency, duly designated by the Administrator, or upon request of any duly designated officer, employee or representative of a State having an authorized hazardous waste program, furnish information relating to such wastes and permit such person at all reasonable times to have access to, and to copy all records relating to such wastes. . . ."

Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), authorizes the EPA Administrator to issue an order assessing civil penalties whenever the Administrator determines that a regulated person is in violation of RCRA requirements. The Administrator has delegated this authority to the Complainant. Section 3008(g) of RCRA, 42 U.S.C. § 6928(g), provides that any person who violates any requirement of RCRA Subtitle C or its implementing regulations, including regulations of a state hazardous waste program which has been authorized by EPA, is liable for a civil penalty for such violations.

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of Natural Resources and Environmental Control and also sent to Bloom. The Region and OCE reached an agreement with Bloom which aims to impose an appropriate penalty to preserve the integrity of the RCRA program. The compromise reached with the company includes penalties for violations occurring after September 8, 2015.

## B. Respondent

Bloom is a Delaware corporation that developed and currently sells or leases to its customers "Bloom Energy Servers" or "Energy Servers." The Energy Servers contain solid oxide fuel cell technology and are used to convert natural gas into electricity. Bloom has installed its Energy Servers in over 200 customer facilities around the country.

Each Energy Server at Respondent's customers' facilities utilizes natural gas and contains: (1) a group of fuel cell modules ("Fuel Cells"); and (2) approximately four detachable canisters (referred to herein as "Desulf Canisters"). Inside each Fuel Cell, natural gas is converted into electricity through an electrochemical reaction. The Desulf Canisters operate within an Energy Server and are located upstream of the Fuel Cells. The Desulf Canisters are designed to remove sulfur before the gas reaches the Fuel Cells. Each Desulf Canister contains granular desulfurization material, as well as carbon and other material, collectively referred to as "media," which can adsorb a limited amount of sulfur from the incoming natural gas. Each Desulf Canister also incidentally filters out other compounds in the natural gas, including benzene which is captured by and stored within each Desulf Canister. Over time, the media in each Desulf Canister accumulates a concentration of sulfur and other compounds that impact its operation and/or the efficiency of the attached Energy Server. At that point, the media becomes exhausted and "spent." When the efficiency of the Desulf Canister degrades to a significant degree, the spent media in each Desulf Canister needs to be replaced. Bloom decides when media becomes spent and, on behalf of its clients, replaces the spent Desulf Canister and its contents with a replacement Desulf Canister containing fresh media. Bloom then arranges for the disposal of the spent media. During the timeframe relevant to this settlement, Bloom detached the Desulf Canisters from the Energy Servers located at its customers' facilities, and then arranged to ship these Desulf Canisters containing spent media offsite, to receiving facilities so that the spent media could be removed and disposed. Bloom replaced the Desulf Canisters containing spent media with Desulf Canisters containing fresh media.

Prior to the time that Bloom disconnects each Desulf Canister from a Fuel Cell and removes it from an Energy Server at a customer facility, the spent media in the Desulf Canisters is a solid waste within the meaning of RCRA. Testing indicates that this spent media routinely contains RCRA-regulated levels of benzene. As a result, the spent media shipped from the customer facilities is also a hazardous waste, as defined by the RCRA regulations (classified as EPA Hazardous Waste No. D018). EPA has determined that the spent media contained in Bloom's Desulf Canisters was not excluded from regulation as a hazardous waste under any RCRA exemption or exclusion claimed by Bloom.

Relevant to this settlement, Bloom installed Energy Servers at three facilities owned by customers in Philadelphia, Pennsylvania; Fort Meade, Maryland, and Windsor Mill, Maryland. Collectively, these facilities are referred to in the CAFO as the "Customer Facilities." Nationwide, Bloom has been removing Desulf Canisters containing spent media and arranging for their disposal since 2010. Within the Region III states, since September 8, 2015, Bloom shipped Desulf Canisters containing spent media, which are a regulated hazardous waste for benzene, from the three Customer Facilities listed above to the following receiving facilities: (1) VLS Recovery Services LLC ("VLS"), located in Pasadena, Texas, from March 2015 to February 2017; and (2) Advanced Chemical Treatment, Inc. ("ACT"), located in Albuquerque, New Mexico, from October 2016 to the present.

### C. Violations Settled by the Consent Agreement

The following facts and violations are alleged in the Consent Agreement:

1. Four Hazardous Waste Shipments Sent Without A Manifest

Respondent shipped Desulf Canisters containing spent media contaminated with benzene (EPA Hazardous Waste No. D018) from two Customer Facilities[2], one in Pennsylvania and one in Maryland, without first preparing a Hazardous Waste Manifest for each of these shipments on at least the following dates:

a. From the Pennsylvania Customer Facility: 2/11/16
(1 Desulf Canister, about 95 lbs of spent media);

b. From the Pennsylvania Customer Facility: 11/23/16
(9 Desulf Canisters, about 855 lbs of spent media);

c. From the Maryland Customer 1 Facility: 9/23/15
(32 Desulf Canisters, about 3,040 lbs of spent media);

d. From the Maryland Customer 1 Facility: 10/7/16
(31 Desulf Canisters, about 2,945 lbs of spent media).

For shipments from the Pennsylvania facility, Respondent violated 25 Pa. Code § 262a.10 (which incorporates by reference 40 C.F.R. § 262.20(a)(1)) and for shipments from the Maryland facility, Respondent violated COMAR 26.13.03.04.A(1), by offering for transport a hazardous waste (the spent media in the Desulf Canisters) for offsite treatment, storage, or disposal without first preparing a Manifest.

2. Failure to Accurately and Fully Respond to EPA Information Requests

On or about December 31, 2015, Respondent installed a Bloom Energy Server at a Customer Facility in Windsor Mill, Maryland. In an information request letter ("IRL") EPA sent to Respondent on January 20, 2017, EPA asked Bloom to "Identify all facilities where a Bloom Energy Server has been installed within the States of Pennsylvania, Maryland, Virginia, West Virginia, and the District of Columbia." Bloom failed to include the customer facility in Windsor Hill, Maryland in its response. In a second IRL that EPA sent to Respondent on September 1, 2017, EPA asked Respondent to update the first IRL with any new information not provided to EPA in the previous submittal. Bloom again failed to provide information related to the Bloom Energy Server installed at the Windsor Mill, Maryland Facility in its response.

Therefore, Bloom failed to provide requested information related to the Windsor Mill Facility in either its IRL Response #1, dated March 24, 2017, or its IRL Response #2, dated October 4, 2017. Bloom's failure to provide this information is a violation of the requirements of Section 3007(a) of RCRA, 42 U.S.C.

[2] Because Bloom has claimed that its customer names and locations are CBI, the CAFO does not specify the client names or their street addresses. The Region is in the process of evaluating Bloom's CBI claims.

§ 6927(a).

## II. How the Settlement Addresses the Violations

As agreed in this CAFO, Respondent commits to future compliance with RCRA and its applicable regulations. This settlement addresses past violations originating at Customer Facilities located within EPA Region III. As a condition of this settlement, Respondent agrees to perform a nationwide compliance audit within ninety days of ratification of this CAFO by the EAB. The audit requires the Respondent to review records of shipments of Desulf Canisters from 2015 through 2019 and assess compliance with three crucial aspects of the RCRA regulatory program. Specifically, the Respondent shall determine whether Desulf Canisters were shipped with or without hazardous waste manifests, whether they were shipped to an appropriate receiving facility, and whether the material within the Desulf cannisters was disposed of properly. The results of the audit will be subject to pre-agreed upon penalties contained within the CAFO.

### A. Compliance with RCRA: Nationwide Compliance Audit

As set forth in the CAFO, Bloom will conduct a nationwide Compliance Audit to examine shipments of spent media in Desulf Canisters sent from customer facilities outside of Region III states, from September 8, 2015 through December 31, 2019. Bloom will submit a Final Audit Report to EPA, and EPA will determine which shipments resulted in RCRA violations. Bloom agrees to pay the following penalties, in order to resolve violations identified:

Shipment from a Bloom customer facility without a manifest to a permitted TSD:

From September 8, 2015 to October 3, 2016 - $2,000 per shipment

From October 4, 2016 to December 31, 2019 - $4,000 per shipment

Shipment from a Bloom customer facility without a manifest to a non-permitted receiving facility:

September 8, 2015 to October 3, 2016 - $3,000 per shipment

October 4, 2016 to December 31, 2019 - $7,500 per shipment

For any disposal of spent media in a Desulf Canister (originally generated by a Bloom customer facility) at a facility or location that was not a permitted hazardous waste treatment, storage or disposal facility:

September 8, 2015 to December 31, 2019 - $10,000 per shipment.

### B. Civil Penalty Calculation

Section 3008(g) of RCRA, 42 U.S.C. § 6928(g), provides that any person who violates any requirement of RCRA Subtitle C, or EPA's regulations thereunder (including any regulation of a state hazardous waste program which has been authorized by EPA), is liable for a civil penalty in an amount not to exceed $25,000 for each violation. The statutory maximum penalty amount under Section 3008(g) has been adjusted over time, as required by the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C.

§ 2461 note; Pub. L. 101-410), as amended by the Debt Collection Improvement Act of 1996, and most recently, by the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 (28 U.S.C. § 2461 note; Pub. L.114-74, Section 701). EPA implements these adjustments through rulemaking, which are codified in 40 CFR Part 19.

In determining civil penalties, Section 3008(a)(3) of RCRA, 42 U.S.C. § 6928(a)(3), requires that the EPA consider "the seriousness of the violation and any good faith efforts to comply with applicable requirements." EPA's RCRA Penalty Policy incorporates these statutory factors and provides guidance for calculating civil penalties for administrative penalty cases brought under Sections 3008(a) and (g) of RCRA. The RCRA Civil Penalty Policy (June 2003) (hereinafter "Penalty Policy"), is available at https://www.epa.gov/sites/production/files/documents/rcpp2003-fnl.pdf.

The Penalty Policy provides for calculation of administrative civil penalties as follows: First, the Penalty Policy requires a determination of the gravity components of the penalty, see Penalty Policy, pp. 12-19. Next, to determine the gravity, the Policy requires a consideration of the potential for harm caused by the noncompliance as well as the extent of deviation from the regulatory requirement alleged to be violated. The Policy's penalty matrix includes penalty numbers based on these factors. The Penalty Policy further requires a calculation of any significant economic benefit of noncompliance that accrues to the violator. See Penalty Policy, pp. 28-33. Finally, the Penalty Policy allows for the adjustment of the gravity component to reflect the violator's good faith efforts to come into compliance or lack of cooperation, degree of willfulness or negligence, history of noncompliance, ability to pay, any environmental projects undertaken by the respondent, and any other unique factors relevant to the case, including the strength of the case. See Penalty Policy, pp. 33-41.

OCE and the Region followed the Penalty Policy and applied the relevant factors to the specific facts and circumstances of this matter.

1. Gravity

The gravity component of the penalty reflects the seriousness of the violation and includes consideration of the potential for harm to people or the environment and the extent of deviation from the regulatory scheme. For each violation, enforcement staff must evaluate whether the violation results in a major, moderate, or minor potential for harm, and whether the deviation from the regulatory requirement constitutes a major, moderate, or minor extent of deviation. The gravity component also must be adjusted for inflation and to accomplish this, EPA has adjusted the numbers in the penalty policy over time.

In this instance, EPA initially calculated a penalty on February 2, 2018. The penalty multiplier applicable to this penalty calculation was discussed in the January 11, 2018 memo entitled "Amendments to the EPA Civil Penalty Policies to Account for Inflation (effective January 15, 2018), and Transmittal of the 2018 Civil Monetary Penalty Inflation Adjustment Rule" from Susan Parker Bodine, Assistant Administrator of OECA. Per the 2018 rule, for violations that occurred after November 2, 2015, where penalties are assessed on or after January 15, 2018, the statutory maximum was increased to $72,718. EPA reached a settlement in principle with the Respondent on January 15, 2019. In accordance with the January 11, 2018 memo, "prior to any such formal written settlement commitment (...), case teams have the discretion to decide whether to modify" a penalty demand for inflation if the penalty policy has been

adjusted upward after initial penalty calculations.[3] In this instance, the case team decided not to further adjust the penalty for inflation after negotiations were initiated in the interest of reaching a settlement.

EPA and Bloom agreed to a civil penalty of $210,000, which reflects the following instances of Bloom's noncompliance, at these dollar amounts:

- Four manifest violations associated with shipments of spent media in Desulf Canisters after September 8, 2015 (date of Regional Administrator Garvin's letter) x $40,000 each = $160,000

- Two instances of failing to adequately respond to EPA's information request letters = $42,000 for the first violation, plus a 1 day "multiday" (multi-instance) penalty of $8,000 for the second violation = $50,000.

  For a total assessed penalty of $210,000

  a. Manifest Violations

Potential for Harm: The potential for harm posed by Bloom's failure to prepare manifests for four shipments of hazardous waste is "major" under the Penalty Policy The failure to prepare manifests for each of the shipments of spent Desulf Canisters containing benzene posed substantial risks including improper management and disposal, exposures to employees hired to manage the waste, and releases to the environment. Tracking hazardous waste from cradle-to-grave is one of the backbones of the RCRA regulatory program. The regulatory structure, including the use of manifests as a form of notice regarding the nature of substances being handled and/or transported, is designed to avoid the inherent dangers of shipping toxic waste across the country without protections in place. Manifests help ensure shipments are not sent to an unprepared and/or improper destination.

Deviation from Regulatory Requirement: Respondent's failure to prepare manifests for shipments of hazardous waste is "major" because it was a failure to comply with each obligation within the manifest regulatory requirements. All four of these shipments of spent Desulf Canisters containing benzene (EPA Hazardous Waste Code D018) were shipped without a Uniform Hazardous Waste Manifest during the applicable time period.

  b. Information Response Violations

Potential for Harm: The potential for harm posed by Bloom's failure to adequately respond to EPA's Information Request Letters is "major." Bloom's failure to provide any information regarding one of its two customer facilities in Maryland meant that EPA could not evaluate that facility for its environmental compliance. Without that information from Bloom, EPA had no means of discovering where the waste material was being generated.

Deviation from Regulatory Requirement: Respondent's deviation from the regulatory requirements presented by its failure to adequately respond to an Information Request is "major." Bloom had only two

[3] The same language also appears in "Amendments to the EPA's Civil Penalty Policies to Account for Inflation (effective January 15, 2020) and Transmittal of the 2020 Civil Monetary Penalty Inflation Adjustment Rule" (Bodine).

Customer Facilities in Maryland but failed to provide information about one of these facilities in its information response to EPA. The facility in question had a Bloom Energy Server installed since at least 2015, two years prior to the date of the Information Request Letter. Additionally, EPA sent a second Information Request Letter as follow-up, and Respondent again failed to mention such facility in its response.

2. Economic Benefit

The 2003 RCRA Penalty Policy states that EPA's 1984 Policy on Civil Penalties "mandates the recapture of any significant economic benefit of noncompliance (EBN) that accrues to a violator from noncompliance with the law"[4] However, the Penalty Policy acknowledges: "For certain RCRA requirements, the economic benefit of noncompliance may be relatively insignificant (e.g., failure to submit a report on time). In the interest of simplifying and expediting an enforcement action, enforcement personnel may forego the inclusion of the benefit component where it appears that the amount of the component is likely to be less than the applicable amount shown in the chart [provided in the Policy] for all violations alleged in the complaint."[5] The chart provides that where the gravity-based and multi-day penalty is $50,000 or more, the EBN should be pursued if it totals $5,000 or more.

In this case, EPA determined the economic benefit is de minimis. The avoided cost of preparing a manifest for each shipment would have been minimal. Further, Bloom did not realize an economic gain by failing to include the Windsor Mill, Maryland facility in its response. Therefore, in accordance with the RCRA Penalty Policy, enforcement staff did not include an economic benefit calculation in the settlement because any economic benefit accrued by Bloom would have been less than $5,000.

3. Adjustment Factors and Effect of Settlement

The Penalty Policy provides that the method for calculating penalties must have some flexibility, and the gravity component may be further adjusted to reflect respondent's good faith efforts to comply with the requirements, the degree of willfulness or negligence, history of noncompliance, ability to pay, other unique factors and any environmental projects undertaken by the respondent. See Penalty Policy at p. 33.

Respondent has not been previously assessed penalties for these violations, so no adjustment was made for a history of noncompliance. Respondent has not claimed an inability to pay the penalty and the case team determined there were no other adjustments factors relevant to the penalty calculation.

4. Final Penalty Amount

The Region, OCE and the Respondent negotiated a settlement penalty of $210,000. The Region and OCE believe that this amount is appropriate based on the analysis described above.

[4] See Page 28 of the 2003 RCRA Penalty Policy
[5] See Page 28 of the 2003 RCRA Penalty Policy

## III. Release

As specified in the Consent Agreement, payment of the civil penalty will resolve Respondent's civil penalty liability related to the violations alleged.

## IV. Environmental Appeals Board Jurisdiction

The Environmental Appeals Board is authorized to ratify consent orders memorializing settlements between EPA and the Respondent resulting from administrative enforcement actions under the RCRA, and to issue final orders assessing penalties under the RCRA. *See* EPA Delegation 8-9-B and 40 C.F.R. § 22.4(a)(1).

## V. Human Health and Environmental Concerns Presented by Respondent's Actions

Benzene is a highly flammable and volatile organic compound and is considered to be a known carcinogen, implicated primarily in causing an increased risk of developing lymphatic and blood-related cancers. Respondent's failure to comply with the manifest requirements of RCRA and the authorized PAHWR and MDHWMR constitutes a major potential for harm to human health, the environment and the RCRA program. Failure to properly acknowledge and record on a manifest the hazardous constituents of the spent Desulf Canisters could have endangered Respondent's employees, as well as every downstream employee hired to remove the Canisters, and empty, manage and dispose of their contents. The volatility of benzene, and Respondent's transportation of the Desulf Canisters across the country, increased the chance of a release to the environment, creating a greater risk of exposure across the broad geographic areas covered by Respondent's operations.

## VI. Past or Pending Actions

There are no past or pending actions involving Respondent arising out of the same or similar facts. However, following ratification and filing of the Consent Agreement and Final Order, Respondent will conduct a nationwide Compliance Audit of shipments sent from its customer facilities located in states outside of Region III. Where EPA determines that those shipments resulted in violations, Bloom will pay an agreed upon penalty for those violations, as described above.

## VII. The CAFO Would Serve the Public Interest

This CAFO serves the public interest by promoting compliance with the RCRA's prohibition against the transportation of unmanifested hazardous waste and by ensuring that these hazardous wastes are managed properly in the future. The Consent Agreement includes a penalty that will deter Respondent, level the playing field with other fuel cell manufacturers, and generally deter others in the industry from committing similar violations of RCRA.

## VIII. EPA Delegations of Authority

As stated above, Congress authorized the EPA Administrator to assess civil penalties for violations of Section 3008(a) of RCRA, 42 U.S.C. § 6928(a). The Administrator delegated the authority "to file administrative complaints" and "negotiate and sign consent agreements" under RCRA "in multi-regional cases or cases of national significance" to the Assistant Administrator (AA) for OECA. EPA Delegation

8-9B (originally issued on May 11, 1994, and administratively updated on February 4, 2016). This case is a multi-regional case due to the compliance audit provision which creates a process to identify violations in other EPA Regions. The AA for OECA redelegated this authority to the Division Director level. Office of Enforcement and Compliance Assurance Redelegation 8-9-B (Sept. 2015). Thus, Diana Saenz, Acting Director of the Waste and Chemical Enforcement Division, is authorized to sign the Consent Agreement on EPA's behalf.

## IX. Recommendation

For the foregoing reasons, I recommend that you sign the proposed Final Order. If you have any questions concerning this memorandum or the attached CAFO, please contact Leslie Oif at (202) 564-2291 or Natalie Katz at (215) 814-2615.

Attachments:

Consent Agreement and Proposed Final Order

Letter from the Regional Administrator for EPA, Region III, to the Secretary of DNREC, dated September 8, 2015

cc: Patrick McCormick, Esq., Counsel for Bloom Energy Corporation